Urban Management Measures



The SWRCB, CCC, and other State agencies have identified 15 MMs to address urban nonpoint sources of pollution that affect State waters. With approximately

80% of the nation's population living in coastal areas, controlling polluted runoff in urban areas is a challenge.

Negative impacts of urbanization on coastal and estuarine waters are well documented in a number of sources, including California's CWA §305(b) and §319 reports and the Nationwide Urban Runoff Program.

Major pollutants found in runoff from urban areas include sediment, nutrients, oxygendemanding substances, road salts, heavy metals, petroleum hydrocarbons, pathogenic bacteria, and viruses. Suspended sediments constitute the largest mass of pollutant loadings to receiving waters from urban areas. Construction is a major source of sediment erosion. Petroleum hydrocarbons result mostly from automobile sources. Nutrient and bacterial sources include garden fertilizers, leaves, grass clippings, pet wastes, and faulty septic tanks. As population densities increase, a corresponding increase occurs in pollutant loadings generated from human activities. Many of these pollutants enter surface waters via runoff without undergoing treatment.

California's MMs to address urban sources of nonpoint pollution:

3.1 Runoff from Developing Areas

- A. Watershed Protection
- B. Site Development
- C. New Development

3.2 Runoff from Construction Sites

- A. Construction Site Erosion and Sediment Control
- B. Construction Site Chemical Control

3.3 Runoff from Existing Development

A. Existing Development

3.4 Onsite Disposal Systems (OSDSs)

- A. New OSDSs
- B. Operating OSDSs

3.5 <u>Transportation Development (Roads, Highways, and Bridges)</u>

- A. Planning, Siting, and Developing Roads and Highways
- B. Bridges
- C. Construction Projects
- D. Chemical Control
- E. Operation and Maintenance
- F. Road, Highway, and Bridge Runoff Systems

3.6 Education/Outreach

A. Pollution Prevention/Education: General Sources

Urban runoff management requires that several objectives be pursued simultaneously. These objectives include the following (American Public Works Association, 1981):

- Protection and restoration of surface waters by the minimization of pollutant loadings and negative impacts resulting from urbanization;
- Protection of environmental quality and social well-being;
- Protection of natural resources, e.g., wetlands and other important aquatic and terrestrial ecosystems;
- Minimization of soil erosion and sedimentation problems;
- Maintenance of the predevelopment hydrologic conditions;

- Protection of ground-water resources;
- Control and management of runoff to reduce or prevent flooding; and
- Management of aquatic and riparian resources for active and passive pollution control.

Management Measures:

The control of urban NPS pollution requires the use of two primary strategies: the prevention of pollutant loadings and the treatment of unavoidable loadings. California's urban management measures are organized to parallel the land use development process in order to address the prevention and treatment of NPS pollution loadings during all phases of urbanization; this strategy relies primarily on the watershed approach, which focuses on pollution prevention or source reduction practices. Emphasizing pollution prevention and source reduction practices over treatment practices is favored because conducting education practices and incorporating pollution prevention practices into project planning and design activities are generally more effective, require less maintenance, and are more cost-effective in the long term than treatment strategies. Treatment strategies should only be used to address unavoidable loadings or where they are truly cost-effective.

The major opportunities to control NPS loadings occur during the following three stages of development: (1) the siting and design phase, (2) the construction phase, and (3) the post-development phase. Before development occurs, land in a watershed is available for a number of pollution prevention and treatment options, such as setbacks, buffers, or open space requirements, as well as wet ponds or constructed urban runoff wetlands that can provide treatment of the inevitable runoff and associated pollutants. In addition, siting requirements and restrictions and other land use ordinances, which can be highly effective, are more easily implemented during this period. After development occurs, these options may no longer be practicable or cost-effective. MMs 3.1A through 3.1C address the strategies and practices that can be used during the initial phase of the urbanization process.

The control of construction-related sediment loadings is critical to maintaining water quality. The implementation of proper erosion and sediment control practices during the construction stage can significantly reduce sediment loadings to surface waters. MMs 3.2A and 3.2B address construction-related practices.

After development has occurred, lack of available land severely limits the implementation of cost-effective treatment options. MM 3.6A focuses on improving controls for existing surface water runoff through pollution prevention to mitigate nonpoint sources of pollution generated from ongoing domestic and commercial activities.

3.0 URBAN

IMPLEMENTATION AUTHORITIES

Urban Management Measures

3.1 Runoff from Developing Areas

- A. Watershed Protection
- B. Site Development
- C. New Development

3.2 Runoff from Construction Sites

- A. Construction Site Erosion and Sediment Control
- B. Construction Site Chemical Control

3.3 **Runoff from Existing Development**

A. Existing Development

3.4 Onsite Disposal Systems (OSDSs)

- A. New OSDSs
- B. Operating OSDSs

3.5 Transportation Development (Roads, Highways, and Bridges)

- A. Planning, Siting, and Developing Roads and Highways
- B. Bridges
- C. Construction Projects
- D. Chemical Control
- E. Operation and Maintenance
- F. Road, Highway, and Bridge Runoff Systems

3.6 Education/Outreach

A. Pollution Prevention/Education: General Sources

Urban Management Measure 3.1A — Watershed Protection ¹

Develop a watershed protection program to:

- 1. Avoid conversion, to the extent practicable, of areas that are particularly susceptible to erosion and sediment loss;
- 2. Preserve areas that provide important water quality benefits and/or are necessary to maintain riparian and aquatic biota;
- 3. —Protect to the extent practicable the natural integrity of water bodies and natural drainage systems associated with site development—including roads, highways, and bridges;
- 4. Limit increases of percent impervious surfaces; and
- 5. Provide education and outreach to address sources or nonpoint pollution.

Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCBs	• CWA (33 USC § 1251 et seq.) • PCWQCA (WC §§ 13000 et seq.) • CWA §401 • CEQA (PRC §§21000 to 21177)	SWDP (CWA § 402) General Industrial and Construction Activities Storm Water Permits MSWP TMDL Program [pursuant to CWA § 303(d)] Water Quality Certification [pursuant to CWA §401 for discharges of dredge and fill materials] CEQAEnvironmental Review	SWDP applies to: • cities >100,000 pop. (Phase I) • cities of 50,000 - 100,000 pop. (Phase II) TMDL programs apply in CWA § 303(d)-listed watersheds. Water Quality Certification applies to waters of the U.S. statewide and individual projects. CEQAStatewide	NPDES Permits (Phase I): major industrial facilities; large/medium municipalities separate storm sewer systems construction sites that disturb 5 or more acres. NPDES Permits (Phase II): smaller municipalities construction sites that disturb 1 to 5 acres. TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met. CWA §401Water quality certification is required for most watershed level developments (e.g., HCPs, planned community developments) CEQAComments on general plans, watershed level developments, and project specific impacts.

Sound watershed management requires that both structural and nonstructural measures be employed to mitigate the adverse impacts of storm water.

Nonstructural Management Measures 3.1A (Watershed Protection) and 3.1B (Site Development) can be effectively used in conjunction with Management Measure 3.1C (New Development) to reduce both the short-and long-term costs of meeting the treatment goals of this management measure.

Regional	CWA § 208	Areawide water quality control	Regionally	Regional authorities conduct areawide
Authorities (e.g.,		plans		water quality control efforts. Though
ABAG, AMBAG,				dated, § 208 plans can provide a starting
SCAG, SANDAG)				point for identifying problems in specific
				watersheds.
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	SCC (1) implements watershed plans to protect and enhance natural resources and preserve open space and(2) helps to acquire sensitive lands to protect water quality and preserve natural resources.

T	The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.1A (Watershed Protection)				
Agency	Authority	Programs	Implementing Area	Notes	
SWRCB/ RWQCB	PCWQCA(WC §§ 13000 et seq.)	 WQCPs (Basin Plans) WDRs NPSMP WMI 	Statewide	 Enforcement tools: Cleanup and Abatement Orders; Cease and Desist Orders; Administrative Civil Liability RWQCBs have primary responsibility for individual permitting, inspection and enforcement. NPSMP's 3-tier approach to manage NPS pollution: Tier 1, Voluntary Implementation of management practices, Tier 2, Regulatory-Based Encouragement of management practices, Tier 3, Effluent Limitations. 	
DPR	Div. I, Chapter 1.25, Div. V, PRC \$5000 et seq.		SPS	DPR operates and maintains units of the SPS in urban areas.	
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.	

Other Efforts that pertain to Urban Management Measure 3.1A (Watershed Protection)				
Agency	Authority	Programs	Implementing Area	Notes
State/local/federal agency participa- tion in CA's • NMSs • NERRs • NEPs	 MPRSA (16 USC § 1431 et seq.) CZMA § 315 CWA § 320 (33 USC § 1330) 	MBNMSWQPPSMBRPSFEP	NMSs: • Monterey Bay • Channel Islands • Cordell Bank/ Gulf of the Farallones NERRs: • Elkhorn Slough • Tijuana River NEPs: • SMB, SFB and Morro Bay	The MBNMS WQPP is a collaborative effort of federal, State, and local agencies, and public and private groups to address NPS pollution in the region's watersheds. A MOA has been signed by: NOAA; USEPA, Region 9; CalEPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.

Urban Management Measure 3.1B — Site Development

Plan, design, and develop sites to:

- 1. Protect areas that provide important water quality benefits, necessary to main riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss;
- 2. Limit increases of impervious areas;
- 3. Limit land disturbance activities such as clearing and grading, and cut-and-fill to reduce erosion and sediment loss; and
- 4. Limit disturbance of natural drainage features and vegetation.

Agency	Authority	Programs	Implementing Area	Notes
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC helps to acquire sensitive lands to protect water quality and preserve natural resources.
SWRCB	CWA Title VI	SRF	Statewide	Loans for acquisition of sensitive lands to protect water quality and preserve natural resources.
SWRCB/RWQCB	CEQA (PRC §§21000 to 21177)	Environmental Review	Statewide	Comments on specific project.
SWRCB/RWQCB	CWA §401	WQCrP	Statewide	Regulate specific projects involving dredge or fill materials.

Urban Management Measure 3.1C — New Development

Part (1): By design or performance:

- (a) After construction has been completed and the site is permanently stabilized, reduce the average annual TSS loadings by 80% (for the purposes of this measure, an 80% TSS reduction is to be determined on an average annual basis); or
- (b) Reduce the post-development loadings of TSS so that the average annual TSS loadings are no greater than pre-development loadings.
- Part (2): To the extent practicable, maintain post-development peak runoff rate and average volume at levels that are similar to pre-development levels.

Agency	Authority	Programs	Implementing Area	Notes
SCC	PRC Chapter 6, Div 21	CREP	Coastal zone and coastal watersheds, statewide	The SCC helps to acquire sensitive lands to protect water quality and preserve natural resources.
SWRCB/RWQCB	CWA §402(p)	Storm water municipal and construction permits	Statewide	Post-construction provisions of 402(p)

Urban Management Measure 3.2A — Construction Site Erosion and Sediment Control

Part (1): Reduce erosion and, to the extent practicable, retain sediment on site during and after construction; and

Part (2): Prepare and implement, prior to land disturbance, an effective, approved erosion and sediment control plan or similar administrative document that specifies contains erosion and sediment control provisions.

Agency	Authority	Programs	Implementing Area	Notes
Various State and Local Cities/Counties(CA contains 58 counties and approximately 468 incorporated cities.)	 CEQA (PRC §§ 21000 et seq.) CEQA Guidelines (Title 14 CCR §§ 15000 et seq.) PLZ (Gov. Code §§ 65000 et seq.) SMA (Gov. Code §§ 66410 et seq.) CCA § 30500 	Environmental review of "projects" using Initial Study (Environmental Checklists), EIR, or Negative Declaration • General Plans/GP updates • LCPs/LCP amendments • Zoning ordinances • Subdivision ordinances • Permits pursuant to above • Enforcement	Statewide ICP policies/ ordinances apply in coastal zone	EIR, or Negative Declaration should identify mitigation measures to control erosion and sedimentation during and after construction. Cities/counties can adopt ordinances/ rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and
SWRCB/ RWQCBs	 CWA (33 USC § 1251 et seq.) PCWQA (WC §§ 13000 et seq.) CEQA (PRC §§21000 to 21177 PCWQCA 	SWDP (CWA § 402) • General Industrial and Construction Activities Storm Water Permits • MSWP TMDL Program [pursuant to CWA § 303(d)] Water Quality Certification [pursuant to CWA §401 for discharges of dredge and fill materials] CEQA—Environmental Review PCWQCA—WDR §13225	SWDP applies to: cities >100,000 pop. (Phase I) cities of 50,000 - 100,000 pop. (Phase II) TMDL programs apply in CWA § 303(d)-listed watersheds. Water Quality Certification applies statewide. CEQA and PCWQCA— Statewide	declare, prohibit, and abate nuisances. NPDES Permits (Phase I): major industrial facilities; large/medium municipalities separate storm sewer systems construction sites that disturb 5 or more acres. NPDES Permits (Phase II): smaller municipalities construction sites that disturb 1 to 5 acres. TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met. CEQA—Provide comments on construction impacts of projects. PCWQCA—For communities <50,000 also use as suppplement to §402(p).

CCC	 CCA (PRC §§ 30000 et seq.) CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.) CCMP pursuant to CZMA (16 USC §§ 1451 et seq.) 	 Coastal development permits LCP certification/ amendments Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone 	Coastal zone (includes tidelands, submerged lands, public trust lands).	 Enforcement tools include: issue cease & desist/ restoration orders; file complaint for civil penalties. CCC certifies LCPs prepared by coastal cities/counties. Federal projects, permits and licenses must be found consistent with the
BCDC	 MPA (Gov. Code §§ 66600 et seq.), including SFB Plan SMPR (PRC §§ 29000 et seq.) CCMP pursuant to CZMA (16 USC §§ 1451 et seq.) 	Enforcement	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	CCMP before they are implemented. Enforcement and federal consistency authorities are similar to those of CCC.
DFG	FGC §§ 1 et seq. ◆ § 1600-1607	Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds	Statewide: State waters or stream beds	FGC focuses on problems such as control of erosion and sedimentation from grading, golf courses, road cuts, construction sites, etc.

	The following BACKUP AU	THORITIES pertain to Urban M	Ianagement Measures	3.1B, 3.1C, & 3.2A
Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	 WQCPs (Basin Plans) WDRs NPSMP WMI 	Statewide	 Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing. NPSMP's 3-tier approach to manage NPS pollution: Tier 1, Voluntary Implementation of management practices, Tier 2, Regulatory-Based Encouragement of management practices, Tier 3, Effluent Limitations.
DFG	FGC §§ 1 et seq. ◆ § 5650 ◆ §§ 12000-12002	 Enforcement Reporting	Statewide	 Enforcement: citations by DFG wardens Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq.		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

Urban Management Measure 3.2B — Construction Site Chemical Control

Part (1): Limit application, generation, and migration of toxic substances;

Part (2): Ensure the proper storage and disposal of toxic materials;

Part (3): Apply nutrients at rates necessary to establish and maintain vegetation without causing nutrient runoff to surface waters; and

Part (4): Prepare and implement, prior to the use or storage of toxic materials on site, an effective, approved chemical control plan or similar administrative document that contains chemical control provisions (e.g., minimize use of toxic materials; ensure proper containment if toxic materials are to be used/stored on site).

The agencies and authorities for the four components of this MM are the same as the agencies/authorities identified for MMs 3.1B, 3.1C, and 3.2A, with the additional agency/authorities listed below.					
Agency	Authority	Programs	Implementing Area	Notes	
DTSC	 HSC §§ 58000 et seq. HSC §§ 25100 et seq. 	 Permits to Operate Hazardous Waste Facilities Permits Site Mitigation Program and other hazardous waste cleanup programs 	Statewide	 DTSC is lead State agency for hazardous waste management. DTSC issues permits to operate to any person who stores, treats or disposes of or otherwise manages "hazardous waste." DTSC manages the cleanup of hazardous waste sites, and regulates the transport, treatment, storage, and disposal of hazardous waste. 	

The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.2B (Construction Site Chemical Control)

The backup authorities for this MM are the same as the backup authorities identified for MMs 3.1B, 3.1C, and 3.2A.

Urban Management Measure 3.3A— Existing Development

Develop and implement watershed management programs to reduce runoff pollutant concentrations and volumes from existing development:

- 1. Identify priority local and/or regional watershed pollutant reduction opportunities (e.g., improve existing urban runoff control structures);
- 2. Specify a schedule for implementing appropriate controls;
- 3. Limit destruction of natural conveyance systems; and
- 4. Where appropriate, preserve, enhance, or establish buffers along surface water bodies and their tributaries.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (CA contains 58 counties and approximately 468 incorporated cities.)	 PZL (Gov. Code §§ 65000 et seq.) SMA (Gov. Code §§ 66410 et seq.) CCA § 30500 	 General Plans/GP updates LCPs/LCP amendments Zoning ordinances Subdivision ordinances Permits pursuant to above Enforcement 	Statewide LCP policies/ ordinances apply in coastal zone	Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
SWRCB/ RWQCBs	 CWA (33 USC § 1251 et seq.) PCWQCA (WC §§ 13000 et seq.) 	SWDP (CWA § 402) • General Industrial and Construction Activities Storm Water Permits • MSWP TMDL Program [pursuant to CWA § 303(d)]	SWDP applies to: • cities >100,000 pop. (Phase I) • cities of 50,000 - 100,000 pop. (Phase II) TMDL programs apply in CWA § 303(d)-listed watersheds.	 NPDES Permits (Phase I): major industrial facilities; large/medium municipalities separate storm sewer systems construction sites that disturb 5 or more acres. NPDES Permits (Phase II): smaller municipalities construction sites that disturb 1 to 5 acres. TMDL goals include: identify pollution sources in watersheds; allocate pollution control responsibilities where water quality goals are not met.
CARB		Congestion Management Plan	Statewide: cities with pop.> 100,000	Reduction in vehicle congestion can reduce pollution
CIWMB	 CIWMA (PRC §§ 40400-49620) CCR Title 14, Div. 7 and Title 27, Div. 2 	Waste Reduction Program	Statewide at local level	UnderCIWMA, 50% of waste generated Statewide must be diverted from landfills by 2000 (using source reduction, hazard- ous waste control, education.)

T	The following BACKUP AUTHO	ORITIES pertain to Urban Mana	gement Measure 3.3A	(Existing Development)
Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	 WQCPs (Basin Plans) WDRs NPSMP WMI 	Statewide	 Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing. NPSMP's 3-tier approach to manage NPS pollution: Tier 1, Voluntary Implementation of management practices, Tier 2, Regulatory-Based Encouragement of management practices, Tier 3, Effluent Limitations.
DFG	FGC §§ 1 et seq. ◆ § 5650 ◆ §§ 12000-12002	EnforcementReporting	Statewide	 Enforcement: citations by DFG wardens Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

Urban Management Measure 3.4A — New Onsite Disposal Systems (OSDSs)

- Part (1): Ensure that new OSDS are located, designed, installed, operated, inspected, and maintained to prevent the discharge of pollutants to the surface of the ground and to the extent practicable reduce the discharge of pollutants into ground water. Where necessary to meet these objectives: (a) discourage the installation of garbage disposals to reduce hydraulic and nutrient loadings; (b) install low-volume plumbing fixtures in new developments or redevelopments as required by State law; and (c) encourage installation of low-volume plumbing fixtures in existing developments. Implement OSDS inspection schedules for pre-construction, construction, and post-construction.
- Part (2): Direct placement of OSDS away from unsuitable areas. Where OSDS placement away from unsuitable areas is not practicable, ensure that the OSDS is designed or sited at a density so as not to adversely affect surface waters or ground water. Unsuitable sites include, but are not limited to, areas (a) with poorly or excessively drained soils; (b) with shallow water tables or high seasonal water tables; (c) within floodplains; or (d) where nutrient and/or pathogen concentrations in the effluent cannot be sufficiently treated or reduced before the effluent reaches sensitive water bodies.
- Part (3): Establish protective setbacks from surface waters, wetlands, and floodplains for conventional as well as alternative OSDS. The lateral setbacks should be based on soil type, slope, hydrologic factors, and type of OSDS. Where uniform protective setbacks can not be achieved, site development with OSDS so as not to adversely affect water bodies and/or contribute to a public health nuisance.
- Part (4): Establish protective separation distances between OSDS system components and groundwater. The separation distances should be based on soil type, distance to ground water, hydrologic factors, and type of OSDS.
- Part (5): Where conditions indicate that nitrogen-limited surface waters may be adversely affected by excess nitrogen loadings from ground water, prohibit the installation of OSDSs or require the installation of OSDS that reduce total nitrogen loadings to meet water quality objectives.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (e.g., local county or city health departments, sanitary districts, planning departments, environmental health departments)	• PZL (Gov. Code §§ 65000 et seq.)	 General Plans/GP updates LCPs/LCP amendments Zoning ordinances Subdivision ordinances Permits pursuant to above Enforcement 	Municipal areas Statewide LCP policies/ ordinances apply in coastal zone	Local authorities determine OSDS criteria, and require permits and inspections. Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
Various State and Local	 (CEQA (PRC §§ 21000 et seq.) CEQA Guidelines (Title 14 CCR §§ 15000 et seq.) 	Environmental review of "projects" using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to address OSDS placement, operation, etc.

Special Districts	• HSC § 6950-6981 • Gov. Code § 25210	Wastewater Disposal ZoneCounty Service Area	District-wide	Special districts can be established to provide oversight and management of OSDS
SWRCB/ RWQCBs	PCWQCA, CWC Title 23	Basin Plans	Regionwide	Basin Plans can include minimum criteria for siting, operation and maintenance, percolation rates, trenching, prohibition zones, and other requirements.
RWQCBs	PCWQCA § 13269	Establish MOUs with counties or other municipalities	Municipal areas Statewide	Regional Boards can delegate to locals the authority over OSDS
CCC	CCA (PRC §§ 30000 et seq.) CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.)	 Coastal development permits LCP certification/ amendments Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone Enforcement 	Coastal zone (includes tidelands, submerged lands, public trust lands).	 Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties. CCC certifies LCPs prepared by coastal cities/counties.
BCDC	 MPA (Gov. Code §§ 66600 et seq.), including SFB Plan SMPA (PRC §§ 29000 et seq.) 	 Designation of priority uses adjacent to SFB Permitting: development permits and marsh development permits Enforcement 	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	Enforcement authority similar to that of CCC.

	The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.4A (New OSDSs)				
Agency	Authority	Programs	Implementing Area	Notes	
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	• NPSMP	Statewide	NPSMP's 3-tier approach to manage NPS pollution: Tier 1 , Voluntary Implementation of management practices, Tier 2 , Regulatory-Based Encouragement of management practices, Tier 3 , Effluent Limitations.	
DFG	FGC §§ 1 et seq. • § 5650 • §§ 12000-12002	EnforcementReporting	Statewide	 Enforcement: citations by DFG wardens Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition. 	

DHS	CWC (CWC) Title 22	ODW	Statewide	If monitoring indicates groundwater contamination, DHS can order the public water supply purveyor to cease using the contaminated water supply as a source of drinking water.
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS that have OSDS on site.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.

Urban Management Measure 3.4B — Operating Onsite Disposal Systems (OSDSs)

- Part (1): Establish and implement policies and systems to ensure that existing OSDSs are operated and maintained to prevent the discharge of pollutants to the surface of the ground and, to the extent practicable, reduce the discharge of pollutants into ground water. Where necessary to meet these objectives, encourage the reduced use of garbage disposals, encourage the use of low-volume plumbing fixtures, and reduce total phosphorus loadings to the OSDS by 15 % (if the use of low-level phosphate detergents has not been required or widely adopted by OSDS users). Establish and implement policies that require an OSDS to be repaired, replaced, or modified where the OSDS fails or threatens or impairs surface waters.
- Part (2): Inspect OSDSs at a frequency adequate to ascertain whether the OSDSs are failing.
- Part (3): Consider replacing or upgrading OSDS to treat influent so that total nitrogen loadings in the effluent are reduced to meet water quality objectives. This provision applies only where: (a) conditions indicate that nitrogen-limited surface waters may be adversely affected by significant ground water nitrogen loadings from an OSDS, and (b) nitrogen loadings from OSDS are delivered to ground water.

Agency	Authority	Programs	Implementing Area	Notes
Cities/Counties (e.g., local county or city health departments, sanitary districts, planning departments, environmental health departments)	 HSC UPC HC BC PZL (Gov. Code §§ 65000 et seq.) SMA (Gov. Code §§ 66410 et seq.) CCA § 30500 	 General Plans/GP updates LCPs/LCP amendments Zoning ordinances Subdivision ordinances Permits pursuant to above Enforcement 	 Municipal areas Statewide LCP policies/ ordinances apply in coastal zone 	Local authorities determine OSDS criteria, and require permits and inspections. Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.
Various State and Local	 CEQA (PRC §§ 21000 et seq.) CEQA Guidelines (Title 14 CCR §§ 15000 et seq.) 	Environmental review of "projects" using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to address OSDS placement, operation, etc.
Special Districts	• HSC § 6950-6981 • Gov. Code § 25210	Wastewater Disposal ZoneCounty Service Area	District-wide	Special districts can be established to provide oversight and management of OSDS
SWRCB/ RWQCBs	PCWQCA, CWC Title 23	Basin Plans	Regionwide	Basin Plans can include minimum criteria for siting, operation and maintenance, percolation rates, trenching, prohibition zones, and other requirements.
RWQCBs	PCWQCA § 13269	Establish MOUs with counties or other municipalities	Municipal areas Statewide	RWQCBs can delegate to locals the authority over OSDS

The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.4B (Operating OSDSs)

The backup authorities for this MM are the same as the backup authorities identified for MMs 3.4A (New OSDSs).

Urban Management Measure 3.5A — Planning, Siting, and Developing Roads and Highways

Plan, site, and develop roads and highways to:

- 1. Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss;
- 2. Limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss; and
- 3. Limit disturbance of natural drainage features and vegetation.

Urban Management Measure 3.5B — Bridges

Site, design, and maintain bridge structures so that sensitive and valuable aquatic ecosystems and areas providing important benefits are protected from adverse effects.

Urban Management Measure 3.5C — Construction Projects [Roads, Highways and Bridges]

Part (1): Reduce erosion and, to the extent practicable, retain sediment on site during and after construction and

Part (2): Prior to land disturbance, prepare and implement an approved erosion control plan or similar administrative document that contains erosion and sediment control provisions.

Agency	Authority	Programs	Implementing Area	Notes
• Cal/Trans • SWRCB/ RWQCB • USEPA	CWA § 402 CEQA (PRC §§21000 to 21177)	SWMP CEQA—Environmental Review	Statewide on Cal/Trans roads CEQA—Statewide	General Construction Activities Storm Water NPDES Permit Storm Water Quality Handbooks include: Planning and Design Staff Guide Construction Staff Guide Construction Contractors Guide and Specifications Chapter C6, Maintenance Manual, Volume 1 CEQA—Provide comments on construction impacts of transportation projects.
SWRCB	CWA §401	401 Certification Program	Statewide	
Various State and Local	 CEQA (PRC §§ 21000 et seq.) CEQA Guidelines (Title 14 CCR §§ 15000 et seq.) 	Environmental review of "projects" using Initial Study (Environmental Checklists), EIR, or Negative Declaration	Statewide	Initial Study, EIR, or Negative Declaration may identify mitigation measures to control erosion and sedimentation during and after construction.

Cities/Counties	 CWA § 402 PZL (Gov. Code §§ 65000 et seq.) SMA (Gov. Code §§ 66410 et seq.) CCA § 30500 	 SWPPPs General Plans/GP updates LCPs/LCP amendments Zoning ordinances Subdivision ordinances Permits pursuant to above Enforcement 	 Local areas with pop. >100,000 (Phase I) and bet. 50,000 - 100,000 (Phase II) Local Governments statewide LCP policies/ordinances apply in coastal zone 	General Storm Water NPDES Permits Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; general police powers to protect public health, safety and welfare/declare, prohibit, and abate nuisances.
CCC	 CCA (PRC §§ 30000 et seq.) CCC Administrative Regulations (Title 14 CCR §§ 13000 et seq.) CCMP pursuant to CZMA (16 USC §§ 1451 et seq.) 	 Coastal development permits LCP certification/ amendments Federal consistency: review of federal actions affecting land or water uses or natural resources of the coastal zone Enforcement 	Coastal zone (includes tidelands, submerged lands, public trust lands).	 Enforcement tools include: issue cease and desist/ restoration orders; file complaint for civil penalties. CCC certifies LCPs prepared by coastal cities/counties. Federal projects, permits and licenses must be found consistent with the CCMP before they are implemented.
BCDC	 MPA (Gov. Code §§ 66600 et seq.), including SFB Plan Suisun Marsh Preservation Act (PRC §§ 29000 et seq.) CCMP pursuant to CZMA (16 USC §§ 1451 et seq.) 	 Designation of priority uses adjacent to SFB Permitting: development permits and marsh development permits Federal consistency authority Enforcement 	SFB (shoreline areas within 100 ft. of SFB; tidal areas and specified tributaries; Suisun Marsh)	Enforcement and federal consistency authorities are similar to those of CCC.
DFG	FGC §§ 1 et seq. • § 1600-1607	Streambed alteration permits for grading, filling, dredging activities in State waters or stream beds	Statewide: State waters or stream beds	FGC focuses on problems such as control of erosion and sedimentation from grading, golf courses, road cuts, construction sites, etc.

	The following BACKUP AUT	THORITIES pertain to Urban M	anagement Measures 3	3.5A, 3.5B, and 3.5C
Agency	Authority	Programs	Implementing Area	Notes
SWRCB/ RWQCB	PCWQCA (WC §§ 13000 et seq.)	 WQCPs (Basin Plans) WDRs NPSMP WMI 	Statewide	 Enforcement tools: cleanup and abatement/cease and desist orders; admin. civil liability RWQCBs have primary responsibility for individual permitting, inspection and enforcement: may prohibit discharges or place limits on discharge characteristics, volume, area, or timing. NPSMP's 3-tier approach to manage NPS pollution: Tier 1, Voluntary Implementation of management practices, Tier 2, Regulatory-Based Encouragement of management practices, Tier 3, Effluent Limitations.
DFG	FGC §§ 1 et seq. • § 5650 • §§ 12000-12002	EnforcementReporting	Statewide	 Enforcement: citations by DFG wardens Reporting: DFG staff report chronic (sublethal, long-term) water pollution conditions to RWQCBs, and cooperate in obtaining corrections or abatements to the condition.
FHA and AASHTO	ISTEA		Statewide	 Provides guidance on transportation development Develops construction and maintenance standards
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq		SPS	DPR operates and maintains units of the SPS in urban areas.
DHS	HSC §116275 et seq.	Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies to evaluate of water quality.

Urban Management Measure 3.5D — Construction Site Chemical Control [Roads, Highways and Bridges]

- Part (1): Limit application, generation, and migration of toxic substances;
- Part (2): Ensure the proper storage and disposal of toxic materials;
- Part (3): Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.

	The agencies and authorities for the four components of this MM are the same as the agencies/authorities identified for MMs 3.5A 3.5B, and 3.5C, with the additional agencies/authorities listed below.					
Agency	Authority	Programs	Implementing Area	Notes		
Cal/Trans		Cal/Trans IPMP	Statewide on Cal/Trans roads			
DTSC	 HSC §§ 58000 et seq. HSC §§ 25100 et seq. 	 Permits to Operate Hazardous Waste Facilities Permits Site Mitigation Program and other hazardous waste cleanup programs 	Statewide	 DTSC is lead State agency for hazardous waste management. DTSC issues permits to operate to any person who stores, treats or disposes of or otherwise manages "hazardous waste." DTSC manages the cleanup of hazardous waste sites, and regulates the transport, treatment, storage, and disposal of hazardous waste. 		
CDPR	FAC § 12811-12829 3 CCR § 6170-6193	Registration of Pesticides				

The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.5D (Construction Site Chemical Control)

The backup authorities for this MM are the same as the backup authorities identified for MMs 3.5A, 3.5B, and 3.5C.

Urban Management Measure 3.5E — Operation and Maintenance [Roads, Highways and Bridges]

Incorporate pollution prevention procedures into the operation and maintenance of roads, highways, and bridges to reduce pollutant loadings to surface waters.

Urban Management Measure 3.5F — Road, Highway and Bridge Runoff Systems

Develop and implement runoff management systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters.

- 1. Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures;) and
- 2. Establish schedules for implementing appropriate controls.

Agency	Authority	Programs	Implementing Area	Notes
Cal/TransSWRCBUSEPA	CWA § 402	SWMP	Statewide on Cal/Trans roads	Storm Water Quality Handbook: Chapter C6, Maintenance Manual, Volume 1
Cities/Counties	 CWA § 402 PZL (Gov. Code §§ 65000 et seq.) SMA (Gov. Code §§ 66410 et seq.) CCA § 30500 	 SWPPPs General Plans/GP updates LCPs/LCP amendments Zoning ordinances Subdivision ordinances Permits pursuant to above Enforcement 	 Local areas with pop. >100,000 (Phase I) and bet. 50,000 - 100,000 (Phase II) Local Governments statewide LCP policies/ordinances apply in coastal zone 	 General Construction Activities Storm Water NPDES Permit Cities/counties can adopt ordinances/rules and make land-use decisions consistent with State law. Enforcement tools include: inspections; fines; infractions; misdemeanors; stop work orders; and general police powers to protect public health, safety and welfare and declare, prohibit, and abate nuisances.

The following BACKUP AUTHORITIES pertain to Urban Management Measure 3.5E and 3.5F

The backup authorities for this MM are the same as the backup authorities identified for MMs 3.5A, 3.5B, and 3.5C.

Urban Management Measure 3.6A — Pollution Prevention/Education: General Sources

Implement educational programs to provide greater understanding of watersheds, and to raise awareness and increase the use of applicable urban management measures and practices where needed to control and prevent adverse impacts to surface and ground water. Public education, outreach, and training programs should involve applicable user groups and the community. Implementation of urban pollution prevention and education programs includes the following activities, where applicable:

1. Households

- Improper storage, use, and disposal of household hazardous chemicals, including automobile fluids, pesticides, paints, solvents, etc.;
- Lawn and garden activities, including the application and disposal of lawn and garden care products, and improper disposal of leaves and yard trimmings;
- Improper operation and maintenance of onsite disposal systems;
- Improper disposal of pet excrement.

2. Landscaping

- Turf management on golf courses, parks and recreational areas.
- 3. Commercial
 - Commercial activities, including parking lots, restaurants, vehicle service facilities, and other entities.
- 4. Other General Sources
 - Discharge of pollutants into storm drains, including floatables, waste oil, and litter;
 - Roads, highways, and bridges.
 - [Refer to the Urban Management Measures 3.1 3.5 listed in this document.]

Agency	Authorities (•) and Programs (♦)	Implementing Area	Notes
Local Governments	Many programs, including the following:	Varies Statewide	Many local governments maintain
(Cities and	◆ SFB/Southern CA NPDES stormwater programs		planning, community liaison, or public
Counties)	(education/outreach efforts to reduce urban pollution from litter		education/information staff to organize
	and improper disposal into storm drains).		special projects (e.g, management
	◆ MBNMS WQPP watershed module for the Adopt-a-Beach coastal		practice handbooks, curbside collection,
	clean-up activities in central CA.		storm drain stenciling).
	◆ Santa Clara Valley NPS Control Program/San Jose Office of Env.		
	Management automobile service station management practice		
	handbook.		
	◆ Sunnyvale's curbside used oil collection/outreach program.		
	◆ San Francisco's permanent HHW collection facility (includes		
	education, waste disposal, facility inspection).		

CCC	 CCA (PRC §§ 30000 et seq.) Conservation Education Program (§ 30012) Coastal Cleanup Day Adopt-A-Beach program Save Our Seas curriculum. 	Coastal zone	CCC programs promote conservation awareness, recycling, and litter abatement efforts through community involvement and environmental education efforts/materials.
CIWMB	 CIWMA (PRC §§ 40400-49620) CCR Title 14, Div. 7 and Title 27, Div. 2 Diversion, Planning, and Local Assistance HHW Grants Used Oil Grants Used Oil Certification Waste Reduction Program 	Statewide at local level	 Model planning documents, workbooks, and catalogs to help prevent, reduce, recycle, compost, dispose of wastes (including used oil/ HHWs). Used oil grants Grants to implement HHW waste/source reduction or reuse/recycling programs. Incentives to collection centers for do-it-yourselfers to bring used oil for proper disposal or re-refining.
CDPR	 FAC §§ 11401 et seq. CCR Title 3, §§ 6000 et seq. Surface Water Protection (FAC §14005 Pesticide Labeling (FAC § 11501 and 3 CCR §§ 6235-6243) Availability of label storage and disposal requirements (3 CCR §§ 6602, 6670-6686) Pesticide Licensing/Training (FAC § 12851-12859) Integrated Pest Management (IPM) Urban Pesticide Committee 	Statewide	 Licensing/training for professional gardeners/landscapers/others who apply pesticides on golf courses, parks, recreational areas, etc. Grants to educate urban gardeners on IPM/reduced pest control. Outreach and education plan to prevent pesticide residues from reaching storm drains
DTSCCal/EPAUSEPACA Community Colleges	 HSC §§ 58000 et seq. H&SC §§ 25100 et seq. Hazardous Waste Generator/Small Business Outreach Workshops California Compliance School 	Statewide	 Hazardous waste management workshops for businesses Classes/workbook and hands-on training for individuals who manage/work with hazardous wastes
DWR	 CACRFCA WCLA DFPP Urban Streams Restoration Program Water Education Program Model Water Efficient Landscape Ordinance 	Statewide SFB Delta	 Assistance and grants to citizens and local agencies to address urban stream erosion and flooding problems Helps water districts plan, organize, and implement water education/conservation programs Cities/counties must adhere to DWR

	Model Water Efficient Landscape
	Ordinance or equivalent ordinance

Other Efforts that pertain to Urban Management Measure 3.6A (Pollution Prevention/Education: General Sources)					
Agency	Authorities (•) and Programs (♦)	Implementing Area	Notes		
City of Monterey City of Santa Cruz CCC, Central Coast RWQCB MBNMS AMBAG SWRCB BASMAA	 CWA § 402: NPDES storm water program CZARA (16 USC § 1455b) BASMAA MURP [developed pursuant to a CWA § 319 grant] 	 Cities of Monterey and Santa Cruz other small municipalities Statewide. BASMAA—SF Area 	Model URMP developed by Cities of Monterey and Santa Cruz. Includes a model framework to develop similar URMPs in other small cities, and a "How to Guide" with coordinating mechanisms for local agencies, recommended improvements to local CEQA Guidelines, and a model public education program. BASMAA's Start at the Source manual, Pesticide manual, Other outreach.		
State/local/federal agency participation in CA's NMSs NERRs NEPs	 MPRSA (16 USC § 1431 et seq.) CZMA § 315 CWA § 320 (33 USC § 1330) MBNMS WQPP SMBRP SFEP 	NMSs: • Monterey Bay • Channel Islands • Cordell Bank/ Gulf of the Farallones NERRs: • Elkhorn Slough • Tijuana River NEPs: • SMB, SFB and Morro Bay	The MBNMS WQPP includes numerous education efforts/actions. It is a collaborative effort of federal, State, and local agencies, and public and private groups to address NPS pollution in the region's watersheds. An MOA has been signed by: NOAA; USEPA, Region 9; Cal/EPA; SWRCB; RWQCB 2 (SFB); RWQCB 3 (Central Coast); CCC; and AMBAG.		
DPR	Div. I, Chapter 1.25, Div. V, PRC §5000 et seq	SPS	DPR has an extensive educational program that includes talks, displays, curriculum development and special programs.		
DHS	 HSC §116275 et seq. Drinking water source assessment and protection; drinking water sampling and analysis; regulation of public drinking water systems 	Watersheds associated with drinking water sources	Assessment of potential contaminating activities in watershed; self-determined protection programs by drinking water systems and communities; collection of data on contaminants in drinking water supplies for the evaluation of water quality.		
CDPR	 FAC §11501F H₂O Home to Ocean Workbook 	Statewide in urban areas	This workbook is a comprehensive guide for wastewater treatment plants on how to launch a public education campaign or enhance an existing outreach program for water quality.		